



The Application of “Smart Phone” in College English Teaching

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Abstract. With the development of mobile network technology and its application in teaching, especially the popularity of smart phones, the use of mobile phones to carry out college English teaching has increasingly attracted people’s attention. This paper analyzes the concept of mobile phone teaching, the characteristics of smart phones, and college English teaching based on mobile phones, and analyzes its advantages and disadvantages [1].

Keywords: smart phone · College English · Mobile Learning

1 Introduction

With the rapid development of communication technology and the appearance of 4G network, people’s demand for 4G network is growing. In modern educational technology [2], mobile phone teaching is an essential part. According to the latest statistics, at present, the proportion of smart phones in school has reached up to 100 percent, everyone uses mobile phones for more than 3 h a day, while English is only less than 10 min, most of the time is chatting in QQ, wechat, listening to music, playing games! According to the survey, most college students do not know how to use mobile phones to learn English, and few of them can use mobile phones to learn English. However, the method is very simple, only by using mobile phone dictionary to look up new words, so mobile phones should be applied to college English teaching. Mobile learning has been introduced into college English classes, which has played a good auxiliary role in college English teaching [3]. As shown in Fig. 1.

2 Smartphones and Mobile Learning

Smartphone, “like personal computer, has an independent operating system, has an independent operating space, can be installed by the user, games, navigation and other third-party services provided programs, and can use the mobile communication network to achieve wireless network access to the mobile phone type”. The connotation of mobile learning of basic smart phones includes the following aspects: (1) The objective of mobile learning is clear, which is to obtain educational information, resources and services. (2) The main tool of mobile teaching is smart phone; (3) The technology that mobile teaching

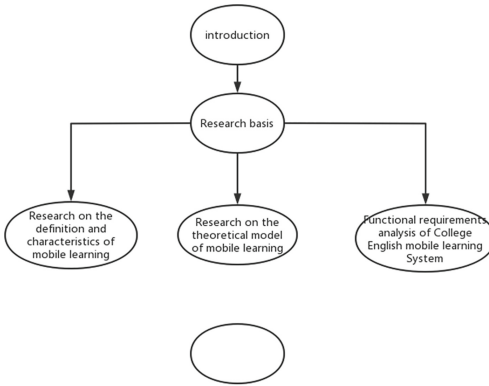


Fig. 1. Structure diagram

relies on is the most advanced in the world, among which 4G is the most important. (4) The five characteristics of mobile learning are randomness of learning, connectivity of devices, diversity of interactions, relevance of situations, and personalized learning [4] (Table 1).

For 109 selected articles, curve analysis is made according to publication date. As can be seen from the trend chart, with the passage of time, the domestic educational technology community has poured more and more attention and investment into mobile learning [5]. As shown in Fig. 2.

To get an idea of the quality of these articles, you can look at the citations. The H-index provided by Scopus gives a clearer picture of the quality of these articles -- the average number of citations per article is at least 18. It can be seen that foreign research is still relatively in-depth [6]. As shown in Figs. 3 and 4.

Table 1. Educational Technology CSSCI journals change table

year	periodical	extend
2000–2002	Research on Chinese audio-visual education and audio-visual education	
2003	Research on China’s audio-visual education, Educational informatization and Audio-visual education	
2004–2005	China’s audio-visual education, open education research, education information, electricity Research on chemical education, visual teaching of foreign languages	
2006–2007	Audio-visual Education Research, Open Education Research, Chinese Audio-visual Education, Foreign language caudio-visual Teaching, modern educational technology, Distance education in China, Modern distance education, Chinese educational informatization	

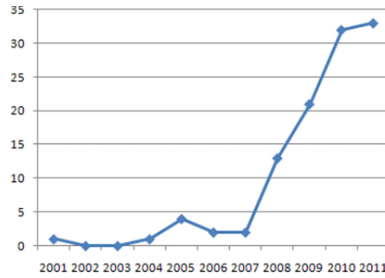


Fig. 2. Chronological distribution

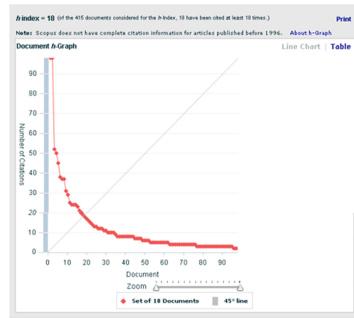


Fig. 3. h index

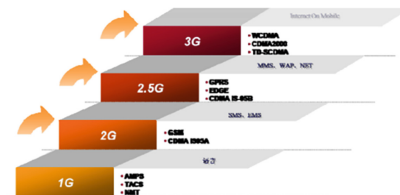


Fig. 4. Wireless communications and value-added services

1G, or the first generation of mobile communication technology, is an analog mobile network, or cellular portable wireless phone standard. It can only support voice communication, but does not support data transmission, and it is easy to eavesdrop or interference. 2G is the second generation of mobile communication technology, represented by GSM and CDMA95, which uses digital signals to transmit voice, and some standards also support SMS messages. 2.5G is the transition between 2G and 3G. Represented by GPRS and CDMA1X, it can provide WAP, MMS, NET and other value-added services on the basis of 2G. 3G is the third generation of mobile communication technology, CDMA2000, WCDMA, TD-SCDMA, WiMAX as the representative, the use of high-speed data transmission of cellular mobile communication technology at the same time to transmit voice and data information, can provide video calls, mobile TV, wireless

Table 2. Mobile learning implementation pattern tendency analysis

Download to local	Mobile phone software interaction	Mobile Internet	Mobile newspaper	other
65%	40%	23%	10%	0%

search, mobile music, mobile office, mobile shopping, mobile online games and other value-added services.

3 The Prerequisite for Applying Mobile Learning to College English Learning

To realize the application of mobile learning in college English learning, the following requirements on teaching hardware and software should be met.

According to the statistics of the Ministry of Industry and Information, by the end of 2015, the number of smartphone users in China had grown by leaps and bounds, exceeding 700 million. Moreover, among the netizens who use mobile terminals to access the Internet, 92.6 percent accessed the Internet through smartphones. At present, the mobile phone has become the most important mobile terminal among college students. At present, 100 percent of the students in Xi'an Siyuan Middle School have smartphones. Students use smart phones to communicate and send messages, browse the web, and do simple text editing. As shown in Table 2.

4 Specific Content of College English Mobile Learning

In order to improve students' vocabulary, teachers can use smartphones to give them word learning and listening tests. When the students are very familiar with these 10 words and phrases, the teacher will send 10 exercises the next day to help the students repeat and become proficient in the words and phrases of the day before, and consolidate their learning effect.

Student = {Knowledge_Level, Ability_Level, Learning_Style, Stere_Type, Environment, Technology, Process}

Definition 2 Knowledge level: refers to the mastery of each knowledge point in the domain model, which is a set of attribute value pairs.

$$K = \{ (k, l) \mid k \in \text{KnowledgeLevel} = \text{KHK} \in \text{ADh} \in \text{H} \}$$

Definition 3 Mastery level: corresponding to Bloom's five educational objectives (knowledge, comprehension, application, analysis, synthesis and evaluation), but adding 0 indicates that learners have no basis at all.

$$H = \{0, 1, 2, 3, 4, 5, 6\}$$

Definition 4 Cognitive ability: It is represented by Gardner's theory of multiple intelligences.

$$A_i \text{abilityLevel} \text{avi} = \dots 8$$

Definition 5 Learning styles: Field independence and field dependence are used to define learning styles, in addition to adding information about learning background, media preferences and interests.

$jjkll_{\{(b),(m),(h)\}}LiearningStyle = sv, v, v, v$

Definition 6 Leadboard model: Includes the determination of the user's current type of leadboard model and the learner's degree of membership to each leadboard model.

$_{\{, (,) | 1, 2, \}}iiStereType = currentSvi = \dots, n$

Definition 7 Environmental conditions: including time, place, language, socio-political events, etc.

Environment = {Time, Location, IFQuiet, Language.....}

Definition 8 Technology: includes network, operating system, model, screen size, resolution, media format, processing speed, etc.

Technology = {Networking, OS, Version, ScreenSize, Resolution_Ratio, Media_Type, Processing,...}

Definition 9 Learning process: includes the user access path and the time spent on each node.

Process = {Path, Time,...}

Definition 10 Learning path: The sequence of link nodes that the learner passes through. $R_1r_1r_1 \{ \}, R, R, R = \dots -$, where $R_1r_1 (\dots, R -)$ is the learning path the learner takes. R_r is the link node selected by the learner.

$P_{12nre_knowledge} = \{p, p, \dots, p\}$, and ip is EAC

one by one judge learners on the degree of master $Pre_knowledge$,

$Pr_iiiiieKnowledgeLevel = \{(,) |, \} PHP \in ADh \in H$

5 Conclusion

We believe that mobile education has the following advantages: As far as individuals are concerned, it can provide users with the required learning content and resources according to their needs at any time, anywhere and under any environment; In the case of groups, this can be achieved by reducing the training of large institutions, thus reducing the consumption of resources, energy and personnel; This is reflected in minimizing the problem of information loss and even misrepresentation caused by the distance of transmission and the long and complex object of transmission.

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